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A method and system are provided for transmitting information from a faster network to a data terminal via a slower network connection. The invention is adapted for use with any Internet access device or terminal, such as an Internet-compatible telephone. A client connects to the Internet via an intermediary software program, known as the Gateway (GW). In the preferred embodiment of the invention, the GW executes on a host computer of an ISP's Local Area Network (LAN). The GW thus mediates the data transfer between the Internet, such as the Web, and the client Internet terminal. The GW employs a point-to-point Internet protocol, the Gateway Interface Protocol (GWIP) to communicate with the client over the low-bandwidth link. The invention shifts the entire overhead of the Internet protocol stack to the GW, and does not involve the Internet terminal or the slow link between Internet terminal and GW. The GW makes and negotiates multiple Internet requests, in parallel, and multiplexes the resulting data streams, allowing documents to be loaded in parallel with their associated images. The GW may also be used to conveniently customize or upgrade the Internet terminal. The GW performs off-line services and caches commonly used information fetched from the Internet. The invention is also readily adapted for use with Internet access devices that require different document formats.

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AMENDED CLAIMS

[received by the International Bureau on 24 August 1999 (24.08.99);
original claims 1-34 replaced by amended claims 1-25 (4 pages)]

1. A method for accessing network information during a communications session, comprising the steps of:
 - accessing a host via a slow link using an Internet terminal;
 - the host negotiating an Internet connection on behalf of said Internet terminal with a software application integrated into said host;
 - said software application using an interface protocol to transfer data from said Internet connection to and from said internet terminal, thereby mediating data transfer between the Internet and said Internet terminal;
 - said software application filtering said Internet data from said Internet connection to reduce the amount of data that is irrelevant to said Internet terminal's attributes;
 - said software application stripping redundant characters from said Internet data; and
 - said software application converting said Internet data to a compressed equivalent data format.
2. The method of Claim 1, further comprising the steps of:
 - said software application using said interface protocol to make and negotiate multiple Internet requests, in parallel;
 - said software application parsing and forwarding said requests to an Internet server for execution;
 - said software application filtering data received from the Internet in response to said request and according to file type; and
 - said software application multiplexing said filtered data over said slow link to said Internet terminal.
3. The method of Claim 1, further comprising the steps of:
 - said Internet terminal storing a profile of a user of said Internet terminal; and
 - said software application using said profile to customize said Internet data sent to said internet terminal.
4. The method of Claim 1, further comprising the step of said software application using said interface protocol to upload data to upgrade said Internet terminal.
5. The method of Claim 1, wherein said software application is an off-line agent for said Internet terminal.

6. The method of Claim 1, further comprising the step of said software application caching information commonly used by said Internet terminal.
7. The method of Claim 1, further comprising the step of said software application tracking charges accruing to said Internet terminal as a result of said Internet connection.
8. The method of Claim 1, wherein said Internet terminal is an Internet-compatible telephone.
9. A method for accessing network information during a communications session, comprising the steps of:
 - accessing a host via a slow link using an Internet terminal;
 - a software application integrated into said host negotiating an Internet connection on behalf of said internet terminal;
 - said software application using an interface protocol to transfer data from said Internet connection to and from said Internet terminal;
 - said software application using said interface protocol to make and negotiate multiple Internet requests, in parallel;
 - said software application parsing and forwarding said requests to an Internet server for execution;
 - said software application filtering data received from the Internet in response to said request according to file type;
 - said software application reducing the amount of said Internet data that is irrelevant to said Internet terminal's attributes;
 - said software application multiplexing said filtered data over said slow link to said Internet terminal;
 - said software application stripping redundant characters from said Internet data; and
 - said software application converting said Internet data to a compressed equivalent data format.
10. The method of Claim 9, further comprising the steps of:
 - said Internet terminal storing a profile of a user of said Internet terminal; and
 - said software application using said profile to customize said Internet data sent to said Internet terminal.

11. The method of Claim 9, further comprising the step of said software application using said interface protocol to upload data to upgrade said Internet terminal.
12. The method of Claim 9, wherein said software application is an off-line agent for said Internet terminal.
13. The method of Claim 9, further comprising the step of said software application caching information commonly used by said Internet terminal.
14. The method of Claim 9, further comprising the step of said software application tracking charges accruing to said user of said Internet terminal as a result of said Internet connection.
15. The method of Claim 9, wherein said Internet terminal is an Internet-compatible telephone.
16. A system for accessing network information during a communications session, comprising:
 - an Internet terminal for accessing a host via a slow link; and
 - a software application integrated into said host for negotiating an Internet connection on behalf of said Internet terminal;
 - wherein said software application uses an interface protocol to transfer data from said Internet connection to and from said Internet terminal;
 - a stripping module in said software application for stripping redundant characters from said Internet data; and
 - a compression module in said software application for converting said Internet data to a compressed equivalent data format.
17. The system of Claim 16, further comprising a filtering module in said software application for filtering said Internet data from said Internet connection to strip out data that is irrelevant to said Internet appliance's attributes.
18. The system of Claim 16, further comprising:
 - a parallel request module in said software application for using said interface protocol to make and negotiate multiple Internet requests, in parallel;
 - a parsing module in said software application for parsing and forwarding said requests to an Internet server for execution;

a file type module in said software application for filtering data received from the Internet in response to said request according to file type; and

a multiplexer module in said software application for multiplexing said filtered data over said slow link to said Internet terminal.

19. The system of Claim 16, further comprising:

a storage module in said Internet terminal for storing a profile of a user of said Internet terminal; and

a customizing module in said software application for using said profile to customize said Internet data sent to said Internet terminal.

20. The system of Claim 16, further comprising an upgrade module in said software application for using said interface protocol to upload data to upgrade said Internet terminal.

21. The system of Claim 16, wherein said software application is an off-line agent for said Internet terminal.

22. The system of Claim 16, further comprising a cache in said software application for caching information commonly used by said Internet terminal.

23. The system of Claim 16, further comprising a tracking module in said software application for tracking charges accruing to said client as a result of said Internet connection.

24. The system of Claim 16, wherein said Internet terminal is an Internet-compatible telephone.

25. An access terminal, comprising:

an Internet-compatible telephone for receiving and displaying a Web page;

a software application integrated into an Internet Service Provider for connecting said Internet-compatible telephone to the Internet;

wherein said software application mediates data transfer between the Internet and said Internet-compatible telephone;

a stripping module in said software application for stripping redundant characters from said Internet data; and

a compression module in said software application for converting said Internet data to a compressed equivalent data format.